



I. Background

A. EAG has "endorsed in principle" centralized exploratory research in the Agency.

B. The "merits" of an exploratory research center can be delineated.

1. Risk taking organization.
2. Place to pursue programs at the technology level without time dominant objections.
3. Focal point for research for entire Agency.
4. Place to investigate interdisciplinary approaches to intelligence problems.
5. Etc.

C. People trained and psychologically suited to exploratory research are not always the same as people trained and suited to engineering on advanced development.

1. Arguments can be made for segregating these people types organizationally leading to a "pure" research center.
2. Many government and industrial organizations are organized in this way, e.g., USAF/Office of Scientific Research.

D. "Mixing" of exploratory research efforts and engineering on advanced development efforts in one organization usually subsumes the research efforts.

1. Emphasis normally shifts to pressing problems.
2. "Research" people tend to look like under-achievers vis a vis their engineering counterparts in terms of output.
3. Presents immediate managerial conflict for resources within the organization such as:
 - a. Dollars
 - b. People

- c. Space
- d. Fringe Benefits

E. If ORD is to be the exploratory research instrument of the Agency, is it suited to the task

- 1. Organizationally?
- 2. Fiscally?
- 3. Personnel-wise?
- 4. Programmatically?
- 5. Managerially?

II. Organizational Considerations

A. Directorate Level

- 1. Clearly ORD does not belong in DDO or DDI.
- 2. Some argument can be made for ORD in DDA.
 - a. Represents "service" function.
 - b. Represents areas of common concern for other Directorates.
 - c. However, does not fit at all with balance of DDA.
- 3. ORD could be part of DCI Staff.
- 4. ORD really best fits where it is in DDS&T.

B. Office Level

- 1. Divisional structure has been the rule throughout history of ORD.
 - a. Originally divided by disciplines.
 - b. Presently arranged by function or "business area" served.
- 2. Divisions in ORD tend to exist as "enclaves" unto themselves. Division Chiefs treat people and "business areas" as their own fiefdoms.

a. Interdivisional cooperation is small.

- (1) Competition for slots
- (2) Competition for dollars
- (3) Competition for visibility of DDS&T level.

b. Broad technology programs suffer.

- (1) "Team participation" always includes maneuvering to capture the funds and responsibilities within a division.

3. Major thrusts in ORD are (or should be) approached by interdisciplinary groups. Examples include:

- a. Presentational Means
- b. Imagery Enhancement
- c. Bulk Document Copying
- d. Futures Research
- e. Etc.

4. Present organization antagonistic to interdisciplinary approaches. Therefore, alterations in organization should be considered:

a. Program Manager Structure

- (1) Organize \$ and people around major programs.
- (2) Maintain flexible reassignment policies for personnel management.
- (3) Reduce number of projects by aggregation into cohesive programs.

b. Organize new Divisions by stage of research activity, i.e., radially on the functional diagram of present ORD structures.

- (1) Problem/Program Definition Division
- (2) Technical Feasibility Division
- (3) Application/Technology Transfer Division

III. Fiscal Considerations

A. ORD presently captures approximately 30% of the DDS&T external contracting dollars.

1. Some of these dollars go toward exploratory research activities.
2. Some of these dollars go toward development, engineering and procurement activities (See V below).

B. There exists some optimal fraction of resources for DDS&T to expend on exploratory research endeavors.

1. Since approximately 1/3 of ORD's \$ are not exploratory research, we presently devote about 20% of DDS&T external \$ to exploratory research.
2. Industry and government installations at cursory glance appear to devote 12%-25% of resources to exploratory research.
3. Therefore, a commitment of the Agency to spend 20% of its resources solely in exploratory research is reasonable and should be formalized.

C. Based on the above, it may be that the ORD budget should be changed.

1. Non-exploratory research activities should be transferred to other components along with the \$ and people involved.
2. The remaining \$ and people and activities should be the basis of the future ORD.

IV. Personnel Considerations

A. Personnel in ORD presently represent a high degree of academic training and/or professional expertise in several areas.

1. Some are very "research-oriented" but without a high level of practicality or understanding of the intelligence business.
2. Some are very pragmatic problem solvers but cannot conceive or formulate challenging long-range research programs.

3. Some are "research-oriented" and pragmatic at the same time.

4. We need to attract and retain more of type (3) above.

B. There is a preponderance of "hard science" personnel in ORD.

1. Specifically, there is a large fraction of electrical engineers.

2. There are very few "experts" in the human and social sciences.

C. The research support areas in which ORD should be active require more emphasis on human/social/behavioral sciences.

D. Consideration must be given to:

1. Transferring "non-research personnel" to other offices.

2. Broadening ORD's expertise base.

a. Lowering the fraction of pure electrical engineers.

b. Building up the "soft sciences".

c. Adding more "basic science" expertise, e.g.,

(1) Physics

(2) Biology

(3) Mathematics

E. If programs are aggregated and only exploratory research endeavors undertaken, it is likely that the T.O. for ORD will drop by 25-40%.

F. Such a drop should not be viewed as a bureaucratic loss of face or power; rather it may represent the formation of a lean and dedicated cadre of exploratory researchers.

V. Programmatic Considerations

- A. ORD projects are only nebulously arranged into broad, meaningful programs.
- B. Customer involvement in programs is spotty.
 - 1. It often occurs only once a year.
 - 2. Many customers acquiesce to ORD programs rather than endorsing enthusiastically.
 - 3. Some programs are done in spite of customers.
- C. Programs are clearly not viewed by customers as universally vital to their needs because:
 - 1. They do not willingly and enthusiastically support all programs.
 - 2. Getting customer commitment of resources (in terms of people's time) is like pulling teeth.
- D. Some ORD programs have continued for so long that the program momentum is the major justification for continuing.
- E. ORD should "take inventory" of its programs in a cold and detached fashion.
 - 1. What is the intelligence need?
 - 2. Is the "need" perceived by ORD and the customer truly worthy of resource expenditure?
 - 3. What would happen to the Agency if it were terminated tomorrow?
 - 4. How can ORD address important future issues and needs in brand new programs?
 - 5. What people resources will be needed for meeting new program demands?
 - 6. How can ORD programs service top priority Agency needs and still demonstrate meaningful progress on a yearly basis?

VI. Managerial Considerations

A. Office Level

1. Recent Office level management has been too "engineering" oriented in training and psychology.
2. Some representation at the Office level of management for "soft" sciences is needed.
3. Office level management must understand and provide impetus for assuming risks associates with exploratory research activities.
4. Continuity is an important factor in Office level management.
 - a. It takes several years to realize the fruits of decisions on exploratory research matters.
 - b. It is cost-ineffective to change constantly the course of exploratory research since initial costs often produce minimal useful results.
5. Office level mangement must comprehend the service nature of exploratory research.
 - a. There should be no predatory instincts to garner activities outside exploratory research.
 - b. Office management must possess some "gambling" instinct to allow high risk/high payoff efforts to be undertaken.

B. Division Level

1. Division Chiefs must view efforts from an Office or even an Agency perspective.
 - a. "Baronial" instincts and actions must be exorcised.
 - b. Inter-divisional cooperation must be demanded by Office and Directorate management.

2. Division level managers should provide leadership to people.

a. Leadership does not mean intimate involvement in every project.

b. Leadership does not mean "editing" and commenting on format of all upward communication from the working level.

c. Leadership means instilling esprit de corps within the Office.

d. Leadership means recognizing the context of efforts from an Agency perspective and communicating this recognition to the working levels.

3. Division level managers must take the major responsibility for insuring the continuing vitality of the ORD workforce.

a. Division Chiefs must have responsibility for identifying and removing people not qualified to do exploratory research.

b. Division Chiefs should be active in the pursuit of new personnel for ORD.

4. Division level management should view their role in the division as an offensive lineman in football.

a. They do not score touchdowns and get headlines.

b. They do knock down obstacles (mainly bureaucratic) so that the workers can do what they get paid for.

5. In general, the cast of Division Chiefs in ORD should have a half-life of 2-3 years.

a. Every 2-3 years there should be half "new faces" at Division Chiefs meetings.

b. Management stability should be at office level.

c. Division Chiefs should use up their new ideas and wear out their welcome in 2-3 years.

VII. An Individual View of a "Blue-Print" for a New ORD

A. The mission is exploratory research at the problem/component/technology level.

B. The annual budget is smaller than present (probably

C. The professional T.O. is slightly smaller (probably

professional project officers).

1. Overhead in ORD should not be considered.

a. R&D is itself an overhead expense.

b. Only total Agency overhead is a meaningful number if indeed that is meaningful.

2. If we do less engineering activities, we will probably need less "support".

D. Divisional Organization is loose

1. Matrix management techniques to allow inter-divisional participation in programs are necessary.

2. Program managers are instituted with authority/responsibility for broad business areas.

E. The D/ORD establishes a special modus vivendi with DDS&T.

1. QR's are held at program level only.

2. Office level coordination is at program level.

3. Customers of ORD are mandated by DDS&T to participate in high payoff programs.